

Work Order ID 56735

March 5, 2010 9:59:52 AM



Page 1

Item ID: D3391-015

Accept



Setup Start



Revision ID:

Item Name: Aft Tube Assembly

Stop



Start Date: 05/03/2010 Start Qty: 1.00



Cust Item ID:

Required Date: 17/03/2010 Req'd Qty: 1.00



Customer:

Reference:

Approvals: Process Plan: RL

Date: 10-3-05 Tooling:

Date:

Run Start



QC:

Date: SPC (Y/N):

Date:

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	----------------	--------------	--------------	---------------	---------------	------------------	----------------

Draw Nbr	Revision Nbr
D3391	Rev H

100



Mori Seiki

Mori Seiki CNC Lathe Large

MORI SEIKI CNC LATHE LARGE

Memo

Turn as per Folio FA599 Rev: PR & Dwg D3391 Rev: H

0.00

0.00

Am 10 / 06 770

110



QC

Quality Control

QC2- Inspect parts off machine FAI/FAIB

Memo

0.00

0.00

am 10/06/24

120



HAAS 1

HAAS CNC vertical machine #1

HAAS CNC VERTICAL MACHINING #1

Memo

1-Machine as per Folio FA 599 Rev: AA & Dwg D3391 Rev: H
2-Deburr

0.00

0.00

am 10/06/24

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: D 3391-015 PAR #: _____ Fault Category: _____ NCR: Yes ☒ No ☐ DQA: [Signature] Date: 10-06-30

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR: <u>56735</u>		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
10.06.24	100	3.300 DIM IS 3.284" AT 6"-10" FROM FWD END. PROCESS: material Release.	<u>[Signature]</u> 10.06.24 <u>Q51042</u>	Acceptable. 3.300 DIM IS 10" FOT DIM IN TOLERANCE IN AREA AROUND SECTION P-P, THE CRITICAL SECTION.	<u>[Signature]</u> 10/06/24	<u>[Signature]</u> 10-06-30	<u>[Signature]</u> 10-06-24 <u>Q51042</u>	<u>[Signature]</u> 10-06-30

NOTE: Date & initial all entries

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Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop



Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Draw
Number

Draw
Rev.

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

130



QC

Quality Control

QC2- Inspect parts off machine FAI/FAIB

0.00

Memo

0.00

Amf 10/06/24

1

140



QC

Quality Control

QC8- Inspect parts - second check

0.00

Memo

0.00

SA 10/06/30

1

150



Skidtubes

Skidtubes

Skidtubes

0.00

Memo

0.00

1-Drill (PILOT HOLE) aft cap holes per Dwg D3391 using DT8803

DP

10-7-14

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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Required Date: 17/03/2010 Req'd Qty: 1.00



Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop



Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Draw
Number

Draw
Rev.

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

160



CNC Bend 1

CNC Delta 100 Bender

BENDING MACHINE - SKIDTUBES

Memo

Form as per Dwg D3391

0.00

0.00

DP

10-7-14

170



QC

Quality Control

QC5- Inspect part completeness to step on W/O

Memo

0.00

0.00

h2 4.375"

8/10/2014

40

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start



Stop



Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Draw
Number

Draw
Rev.

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

180

0.00



Skidtubes

Skidtubes

Memo

0.00

1-Open Aft cap pilot hole to .208" as per Dwg D3391

2-Drill Tube as per D3391 using DT8808 (ALL HOLES)

3-Drill and c'bore wearshoe holes as per Dwg *****ensure wall thickness after c'bore is no less than 0.051*****

4-C'sink holes for float bag (4 holes per side) as per Dwg D3391
Deburr

5- Tranfer holes from D3391-013 for electric step in tube

190

QC5- Inspect part completeness to step on W/O

0.00



QC

Memo

0.00

Quality Control

51060215

DP
10-7-15

(K)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop



Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Draw
Number

Draw
Rev.

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

200

Chemical Conversion Coat per QSI005 4.1

0.00



HandFinish

Memo

0.00

Hand Finishing

1 N 10/13/21

210

Skidtubes

0.00



Skidtubes

Memo

0.00

Skidtubes

1-Install crossbolt spacers per dwg D3391

A/R Magnabond 6398 batch: M112/158

2- Grind flush

ERR: 11/1/10

1 N 10/7/26

220

QC5- Inspect part completeness to step on W/O

0.00



QC

Memo

0.00

Quality Control

8/10/12/12

40

Re-Alodine as per 09-043 ml 10 08 16①

W/O:		WORK ORDER CHANGES					
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Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop



Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Draw
Number

Draw
Rev.

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

230



Powdercoat

Powder Coating

White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum

0.00

11115291

=> HU

10/08/17

1

0

Memo

0.00

START TIME: 8:30 AM
OVEN TEMPERATURE: 320°C
FINISH TIME: 9:00 AM

240



QC

Quality Control

QC3- Inspect Part Finish

0.00

Memo

0.00

M

10

08

17 ①

250



HandFinish

Hand Finishing

HandFinishing

0.00

Memo

0.00

1-Install inserts per dwg D3391

=> HU

10/08/18

1

0

2-Install Aft Cap as per Dwg D3391

A/R Sikaflex-241/-291 11115114

Sikaflex expiry date: 11/01/11

* use with D3391-013
B56731

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop



Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Draw
Number

Draw
Rev.

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

260

QC5- Inspect part completeness to step on W/O

0.00



QC

Memo

0.00

Quality Control

mf

10

08

18

1

270

Identify as per dwg & Stock Location: *W/O 56742*

0.00



Packaging

Memo

0.00

Packaging

mf

10

08

18

280

QC21- Final Inspection - Work Order Release

0.00



QC

Memo

0.00

Quality Control

10/08/23
mf
10-8-18

W/O:		WORK ORDER CHANGES					
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Picklist Print

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Work Order ID: 56735

Parent Item: D3391-015

Parent Item Name: Aft Tube Assembly

Comments: IPP rev A 05.12.13 New issue EC
 IPP rev B 06.02.09 Dwg @ revD EC
 IPP rev C 07.03.13 dwg @revF ec
 IPP rev D 07.10.31 ecn 1053P EC

Start Date: 05/03/2010

Required Date: 17/03/2010

Start Qty: 1.00

Required Qty: 1.00

AN960C10L

Purchased No

100

Each

388.0000

10.0000



washer Y NAS1149C0332R



Warehouse

Loc Qty

Loc Code

Location

OFFSHORE

FG

100

M115000

x10

HL 10/08/18

103585

100

Main Warehouse

ST

288

112116

128

112612

160

D6014-090

Manufactured No

210

Each

7.0000

1.0000



ALUMINUM EXTRUSION



Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

LG

7

42768

7

Q.M 10-06-17 ①

1

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Shop Packet Print

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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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Comments: IPP rev A 05.12.13 New issue EC
 IPP rev B 06.02.09 Dwg @ revD EC
 IPP rev C 07.03.13 dwg @revF ec
 IPP rev D 07.10.31 ecn 1053P EC

Start Date: 05/03/2010

Required Date: 17/03/2010

Start Qty: 1.00

Required Qty: 1.00

ALS4-1032-130

Purchased

No

250

Each

1,142.000 14.0000



Insert

Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

ST

1142

M114723

x14 M 10108118

110511

1142

ALS4-1032-225

Purchased

No

250

Each

6,116.000 12.0000



Insert

Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

ST

6116

107441

16

110768

6100

x12 M 10108118

ALS4-428-165

Purchased

No

250

Each

30.0000 4.0000



Inserts

Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

FP

30

6989

30

x4 M 10108118

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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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Start Date: 05/03/2010

Required Date: 17/03/2010

Comments: IPP rev A 05.12.13 New issue EC
 IPP rev B 06.02.09 Dwg @ revD EC
 IPP rev C 07.03.13 dwg @revF ec
 IPP rev D 07.10.31 ecn 1053P EC

Start Qty: 1.00

Required Qty: 1.00

AN3C4A

Purchased No

250

Each

1,649.000 6.0000



BOLT

Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

ST

1649

11114941

x 6

10108115

112314

13

112720

12

112724

3

112829

1

112991

2

113121

64

113226

344

113644

110

113749

100

114103

500

114108

500

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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 IPP rev C 07.03.13 dwg @revF ec
 IPP rev D 07.10.31 ecn 1053P EC

Start Qty: 1.00

Required Qty: 1.00

AN3C5A Purchased No

250

Each

587.0000 4.0000



Bolt

Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

ST

587

M115015

x4 xl 10108178

111424

8

111707

69

112314

1

113121

49

113149

160

114056

200

114108

100

D2646 Manufactured No

250

Each

48.0000 1.0000



Aft Cap

Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

FP6

29

52663

29

Main Warehouse

fp7

11

B357332

x1 xl 10108115

52663

11

Main Warehouse

ST

8

46327

4

48109

4

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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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IPP rev B 06.02.09 Dwg @ revD EC
IPP rev C 07.03.13 dwg @revF ec
IPP rev D 07.10.31 ecn 1053P EC

Start Qty: 1.00

Required Qty: 1.00

D3537-1 Manufactured No

250

Each

85.0000

1.0000



Wearpad



Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

FP

74

1360192

x1 JH 10/08/18

48288

2

55465

72

Main Warehouse

FP17

11

51678

1

51679

10

D3537-7 Manufactured No

250

Each

14.0000

1.0000



Wearpad



Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

ST

14

45408

3

46346

11

x1 JH 10/08/18

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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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 IPP rev D 07.10.31 ecn 1053P EC

Start Date: 05/03/2010

Required Date: 17/03/2010

Start Qty: 1.00

Required Qty: 1.00

D3553-1 Manufactured No 250 Each 9.0000 1.0000



Gasket



Warehouse Loc Qty Loc Code
Location

Main Warehouse

ST

9

1356568

xl 41 10/08/18

33868

9

D3553-3 Manufactured No 250 Each 58.0000 1.0000



Gasket



Warehouse Loc Qty Loc Code
Location

Main Warehouse

FP

58

53480

58

xl 21 10/08/18

D3670-4-200 Manufactured No 250 Each 63.0000 14.0000



SPACER



Warehouse Loc Qty Loc Code
Location

Main Warehouse

ST

63

48198

4

48269

59

1357349 10/7/26 M 24

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IPP rev B 06.02.09 Dwg @ revD EC
IPP rev C 07.03.13 dwg @revF ec
IPP rev D 07.10.31 ecn 1053P EC

Start Qty: 1.00

Required Qty: 1.00

D3672-1 Manufactured No

250

Each

1,618.000 2.0000



Phenolic Washer

Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

ST

1118

39275

19

42329

5

47628

94

52505

1000

Main Warehouse

ST117

500

51674

500

x2 Hl 10/08/15

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

DART AEROSPACE LTD		Work Order: 56735
Description: Float Skidtube (412)		Part Number: D3391-3
Inspection Dwg: D3391	Rev: H	Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article ☐ Prototype

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
Lathe Section						
14.000	+/-0.010	14.000	✓		TM.	
3.500	+/-0.010	3.498	✓		vern	
88.93	+/-0.030	88.950	✓		Taple	
44.995	+/-0.030	4.965	✓		vern	
Ø3.200	+/-0.010	3.200	✓		vern	
88.93	+/-0.030	88.950	✓		Taple	
Ø3.750	+/-0.010	Ø3.750	✓		vern	
30° x 160° chamfer	+/-0.010	30° X160"	✓		"	

Measured by: G.M	Date: 10.06.17
Audited by: SA	Date: 10/06/30

HAAS Section						
1.526	+0.000/-0.030	1.502	—		vern	
7.500	+/-0.010	7.500	—		"	
27.750	+/-0.010	27.750	—		"	
31.750	+/-0.010	31.750	—		"	
35.250	+/-0.010	35.250	—		"	
3.300	+/-0.010	3.290	—		"	
0.200	+/-0.010	.205	—		"	
3.520	+/-0.010	3.520	—		"	
0.687	+0.010/-0.000	.687	—		"	
R0.062	+/-0.010	R.062	—		"	
Ø0.484	+0.005/-0.001	Ø.487	—		"	

Measured by: G.M	Date: 10/06/24
Audited by: SA	Date: 10/06/30

Rev	Date	Change	Revised by	Approved
A	06.04.24	New Issue P/O D3391-015/-025	KJ/JLM	
B	06.06.19	Dwg revision update	KJ/JLM	
C	07.04.20	Ø0.208 dimension removed	KJ/JLM	
D	07.09.06	0.400 dimension removed	KJ/JLM	
E	07.11.23	Dwg Rev. updated	KJ/EC/DD	
F	09.04.27	Dimensions updated per Rev H and NCR09-028	KJ/JLM	
G	09.11.16	Dimension 0.200 removed	KJ	AA

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ENGINEERING

UNCONTROLLED COPY
SUBJECT TO AMENDMENTWITHOUT NOTICE
WORK ORDER

NO. 56735

D3391-015
AFT TUBE ASSEMBLYSEAL WITH SIKAFLEX-241/291
PRIOR TO INSTALLATION OF
WEARSHOESMS27039C4-12 SCREW
D3672-3 WASHER
AN960C416L WASHER
4 PLD3391-013
MID TUBE ASSEMBLYTRANSFER DRILL THRU
D3391-011 OPEN TO
 $\begin{matrix} +0.005 \\ \text{Ø0.438-0.000} \end{matrix}$ SEAL WITH SIKAFLEX-241/291
PRIOR TO INSTALLATION OF
WEARSHOESD3391-011
FWD TUBE ASSEMBLYTRANSFER DRILL THRU
D3391-011 OPEN TO Ø0.499
AND INSTALL D3591-1 BUSHING

D3566-5 GASKET

D3566-1 GASKET

D3564-13
WEARSHOE
REFD3564-13
WEARSHOE
REFAN3C4A BOLT (1)
AN960C10L WASHER (1)
4 PLAN3C6A BOLT (1)
AN960C10L WASHER (1)
2 PLD3564-1
WEARSHOE
D3564-5
WEARSHOEAN3C4A BOLT (1)
AN960C10L WASHER (1)
20 PLAN3C6A BOLT
AN960C10L WASHER
6 PLAN3C7A BOLT
AN960C10L WASHER
8 PLAN3C6A BOLT
AN960C10L WASHER
4 PLD3564-3
WEARSHOED3566-1
GASKETD3553-3
GASKET
REF
D3537-7
WEARPAD
REFD3553-1
GASKET
REFD3537-1
WEARPAD
REF

DEO ATTACHED

RELEASED

D3391-041 ASSEMBLY

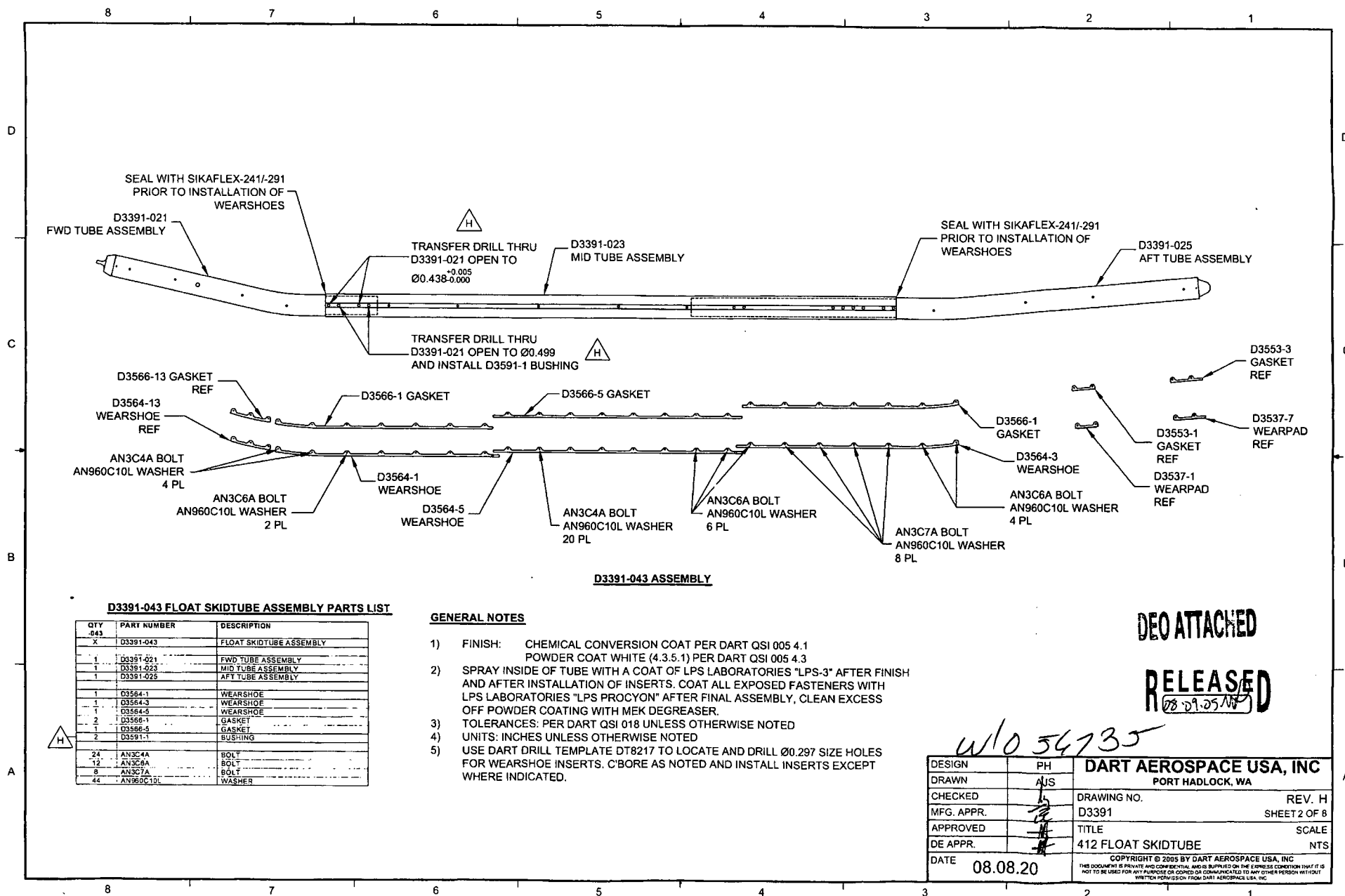
D3391-041 FLOAT SKIDTUBE ASSEMBLY PARTS LIST

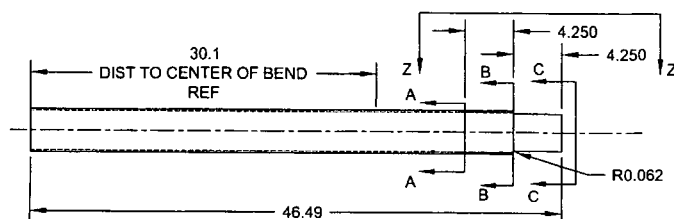
QTY	PART NUMBER	DESCRIPTION
1	D3391-041	FLOAT SKIDTUBE ASSEMBLY
1	D3391-011	FWD TUBE ASSEMBLY
1	D3391-013	MID TUBE ASSEMBLY
1	D3391-015	AFT TUBE ASSEMBLY
1	D3564-1	WEARSHOE
1	D3564-3	WEARSHOE
1	D3564-5	WEARSHOE
1	D3566-1	GASKET
2	D3566-5	GASKET
2	D3591-1	BUSHING
4	D3672-3	WASHER
24	AN3C4A	BOLT
12	AN3C6A	BOLT
8	AN3C7A	BOLT
44	AN960C10L	WASHER
4	MS27039C4-12	SCREW
4	AN960C416L	WASHER

GENERAL NOTES

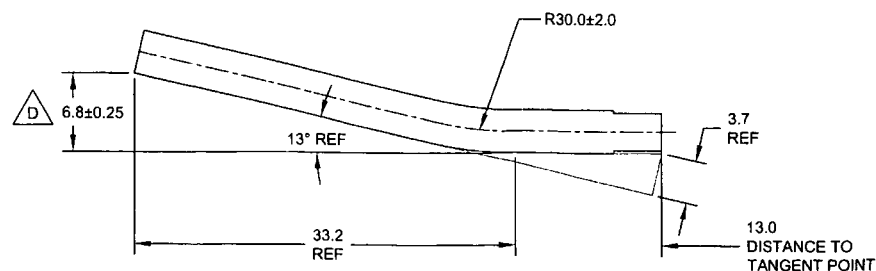
- 1) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
POWDER COAT WHITE (4.3.5.1) PER DART QSI 005 4.3
- 2) SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES "LPS-3" AFTER FINISH
AND AFTER INSTALLATION OF INSERTS. COAT ALL EXPOSED FASTENERS WITH
LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY, CLEAN EXCESS
OFF POWDER COATING WITH MEK DEGREASER.
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) USE DART DRILL TEMPLATE DT8217 TO LOCATE AND DRILL Ø0.297 SIZE HOLES
FOR WEARSHOE INSERTS. C'BORE AS NOTED AND INSTALL INSERTS EXCEPT
WHERE INDICATED.

H	DRAWING UPDATED TO CURRENT STANDARDS. SHT 1 PL ADDED D3591-1 BUSHING. ZN C6 Ø0.438 DIM WAS 4 PL. ADDED Ø0.499 DIM AND D3591-1 BUSHING. SHT 2 PL ADDED D3591-1 BUSHING. ZN C6 Ø0.438 DIM WAS 4 PL. ADDED Ø0.499 DIM AND D3591-1 BUSHING. (FOR FURTHER INFO SEE DSI 9364 & NCR 08-074)	AJS	08.08.20
G	REPLACE NAS INSERTS W/ AELS INSERTS SWITCH TO D3670-XXXX SPACERS FOR INSTALLING FLOAT BAGS, DWG REORGANIZED FOR CLARITY	DC	07.07.31
F	ADD SS WEARSHOE, GASKET REMOVE FWD SADDLE HOLE -011/021	PH	07.01.18
E	CHANGE TOLERANCE, EASE MANUFACTURE	PH	06.04.25
D	UPDATE TOLERANCE, CHANGE HOLE SIZE	PH	06.01.23
C	LENGTHEN AFT EXTENSION	PH	05.09.27
B	DRAWING UPDATES	PH	05.06.10
A	NEW ISSUE	PH	05.02.07
REV.	DESCRIPTION	BY	DATE
DESIGN	PH	DART AEROSPACE USA, INC	
DRAWN	AJS	PORT HADLOCK, WA	
CHECKED		DRAWING NO.	REV. H
MFG. APPR.		D3391	SHEET 1 OF 8
APPROVED		TITLE	SCALE
DE APPR.		412 FLOAT SKIDTUBE	NTS
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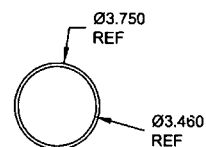




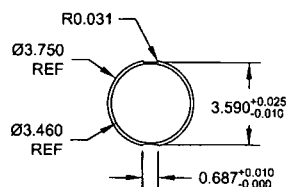
D3391-1 CUTTING DETAIL
(MAKE FROM D6013-047 SKIDTUBE MATERIAL)



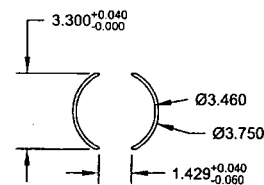
D3391-011/-021 BENDING DETAIL
(MAKE FROM D3391-1)



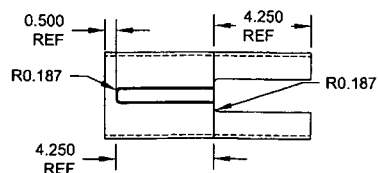
SECTION A-A
SCALE 2X



SECTION B-B
SCALE 2X



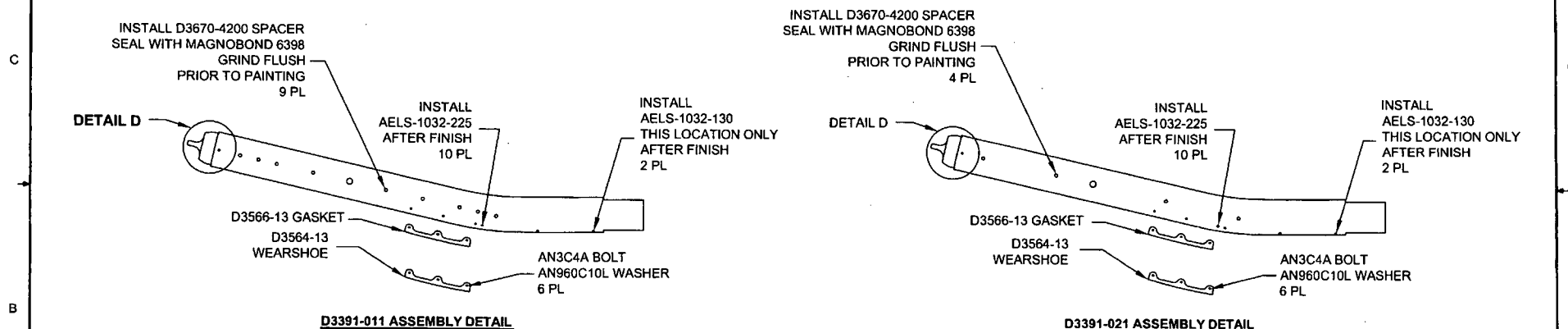
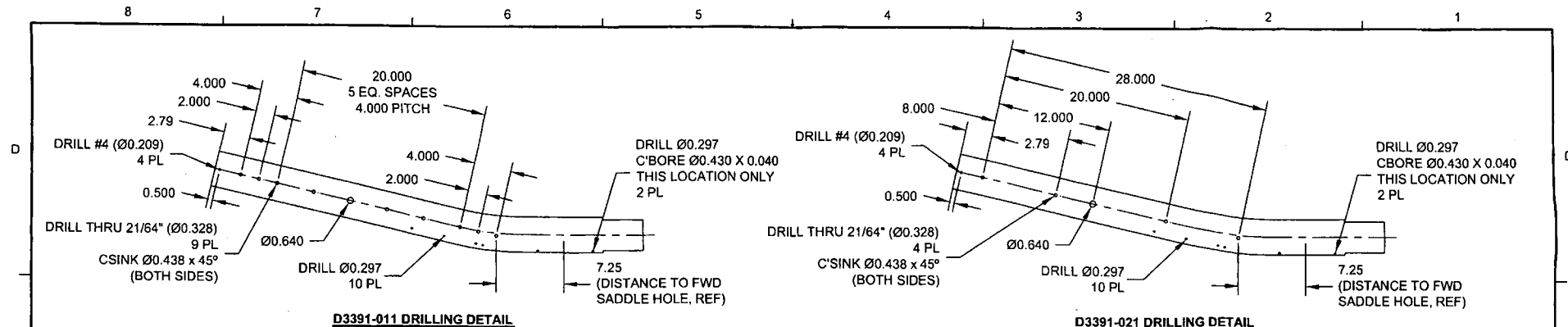
SECTION C-C
SCALE 2X



VIEW Z-Z
SCALE 2X

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08-05-11

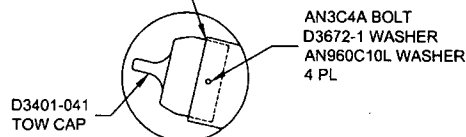
DESIGN	PH	DART AEROSPACE USA, INC	
DRAWN	AJS	PORT HADLOCK, WA	
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MFG. APPR.		D3391	SHEET 3 OF 8
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D3391-011/-021 FWD TUBE ASSEMBLY PARTS LIST

QTY - 011	QTY - 021	PART NUMBER	DESCRIPTION
X		D3391-011	FWD TUBE ASSEMBLY
	X	D3391-021	FWD TUBE ASSEMBLY
1	1	D6013-047	FWD TUBE
1	1	D3401-041	TOW CAP
1	1	D3564-13	WEARSHOE
1	1	D3566-13	GASKET
9	4	D3670-4200	SPACER
4	4	D3672-1	WASHER
10	10	AN3C4A	BOLT
10	10	AN960C10L	WASHER
2	2	AELS-1032-130	INSERT
10	10	AELS-1032-225	INSERT

SEAL WITH
SIKAFLEX-241/-291

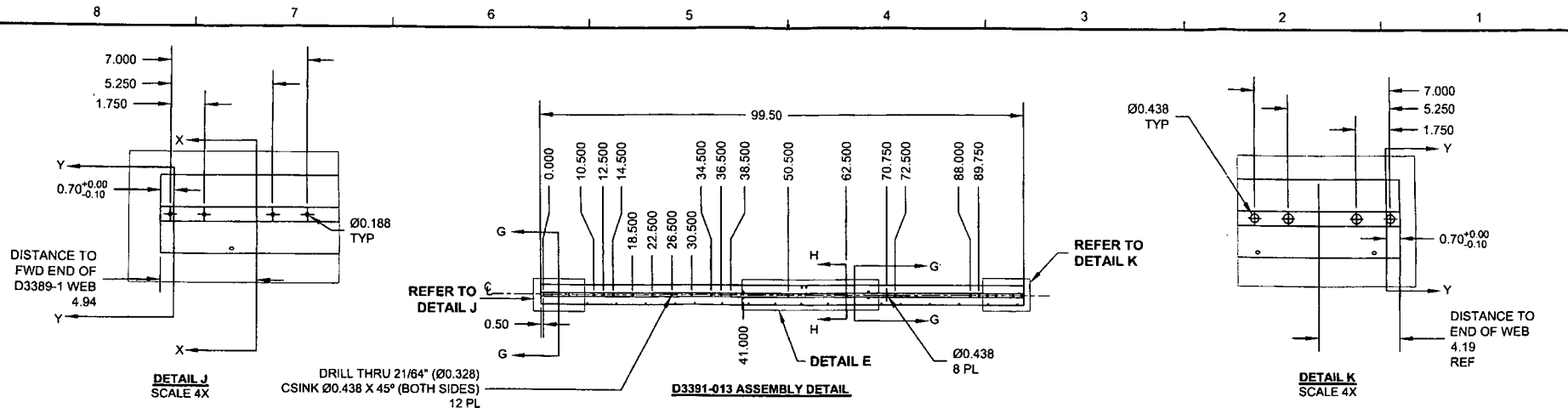


DETAIL D
SCALE 2X

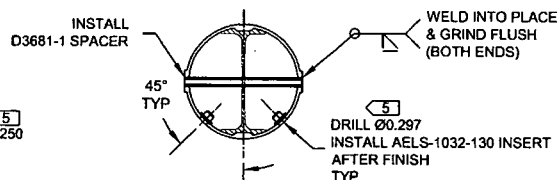
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08-09-05 M

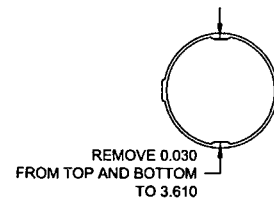
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CHECKED		DRAWING NO.	REV. H
MFG. APPR.		D3391	SHEET 4 OF 8
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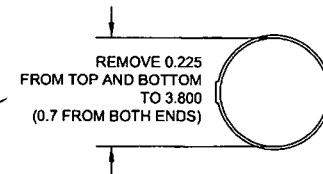
SECTION G-G
SCALE 5X



SECTION H-H
SCALE 5X



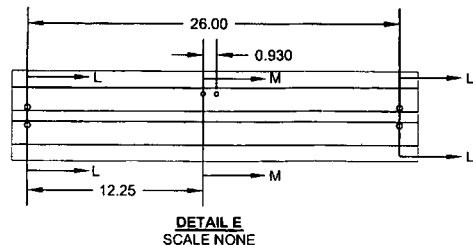
SECTION X-X
SCALE 5X



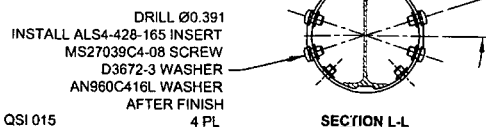
SECTION Y-Y
SCALE 5X

D3391-013 MID TUBE ASSEMBLY PARTS LIST

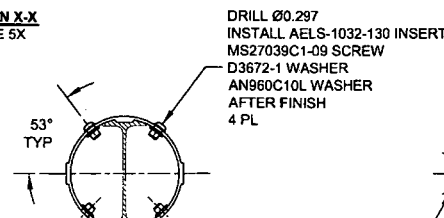
QTY	PART NUMBER	DESCRIPTION
X	D3391-013	MID TUBE ASSEMBLY
1	D2500-1-100	EXTRUSION
1	D3389-1	WEB
4	D3672-1	WASHER
4	D3672-3	WASHER
12	D3681-1	SPACER
24	AELS-1032-130	INSERT
4	ALS4-428-165	INSERT
4	AN960C10L	WASHER
4	AN960C416L	WASHER
4	MS27039C1-09	SCREW
4	MS27039C4-08	SCREW



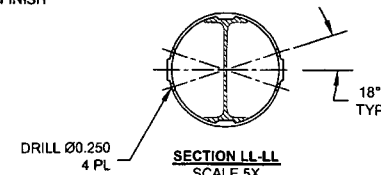
DETAIL E
SCALE NONE



SECTION L-L
SCALE 5X



SECTION M-M
SCALE 5X



SECTION LL-LL
SCALE 5X

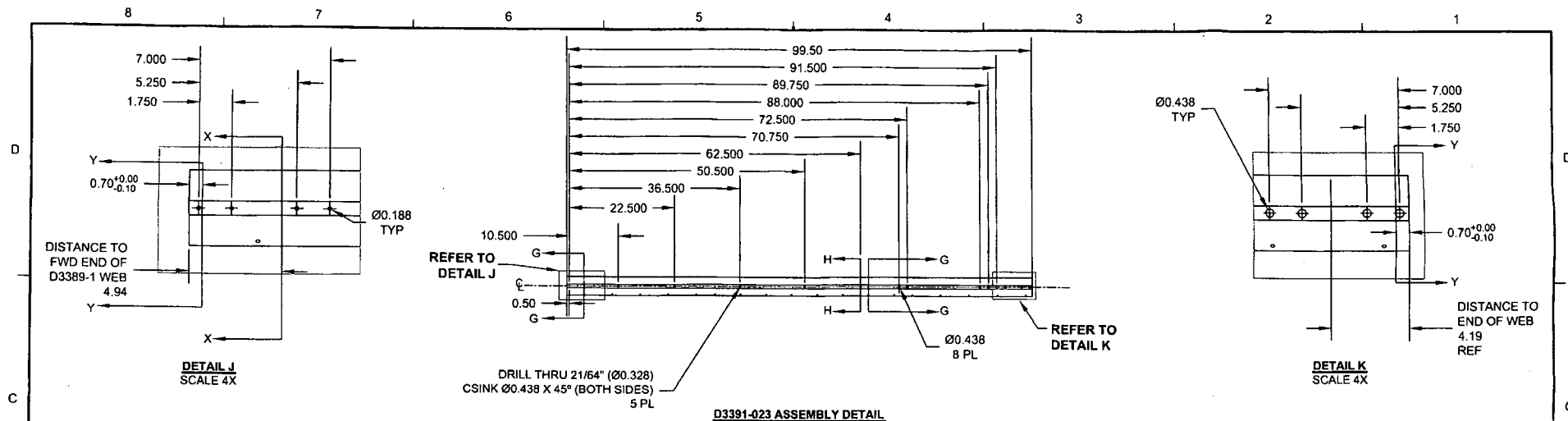
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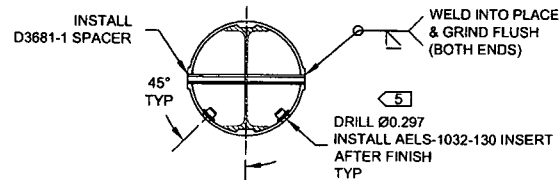
D3391-013 MID TUBE ASSEMBLY

- 1) MATERIAL: MAKE FROM D2500-1-100 EXTRUSION
- 2) INSTALL D3389-1 WEB TO OUTER TUBE USING SIKAFLEX-241/291 PER QSI 015
- 3) WELDING: PER DART QSI 004

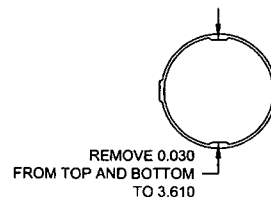
DESIGN	PH	DART AEROSPACE USA, INC	
DRAWN	AJS	PORT HADLOCK, WA	
CHECKED		DRAWING NO.	REV. H
MFG. APPR.		D3391	SHEET 5 OF 8
APPROVED		TITLE	SCALE
DE APPR.		412 FLOAT SKIDTUBE	NTS
DATE	08.08.20	COPYRIGHT © 2005 BY DART AEROSPACE USA, INC	



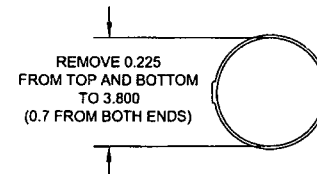
SECTION G-G
SCALE 5X



SECTION H-H
SCALE 5X



SECTION X-X
SCALE 5X



SECTION Y-Y
SCALE 5X

D3391-023 MID TUBE ASSEMBLY PARTS LIST

QTY - 023	PART NUMBER	DESCRIPTION
X	D3391-023	MID TUBE ASSEMBLY
1	D2500-1-100	EXTRUSION
1	D3389-1	WEB
5	D3681-1	SPACER
20	AELS-1032-130	INSERT

D3391-023 MID TUBE ASSEMBLY

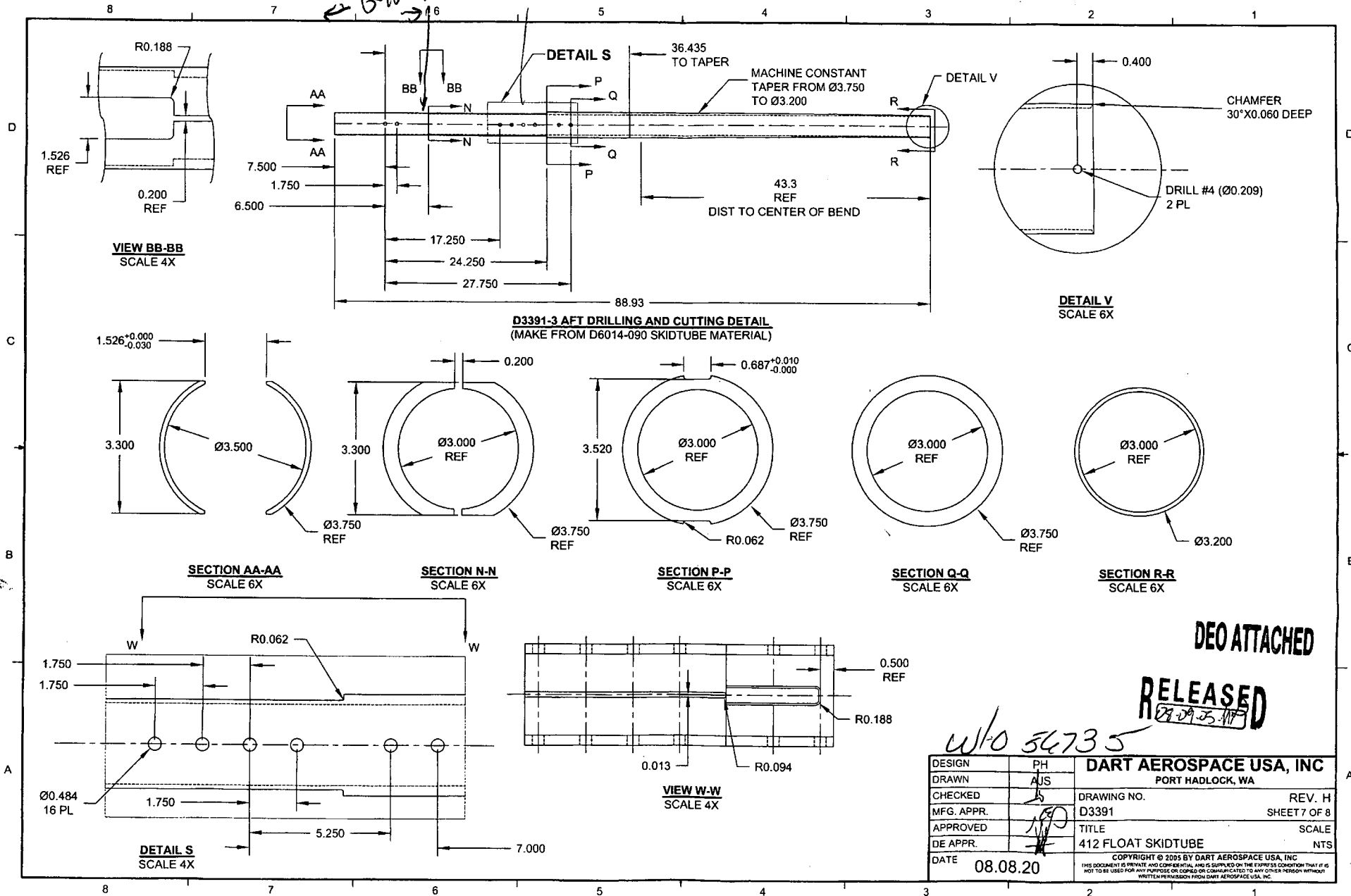
- 1) MATERIAL: MAKE FROM D2500-1-100 EXTRUSION
- 2) INSTALL D3389-1 WEB TO OUTER TUBE USING SIKAFLEX-241/291 PER QSI 015
- 3) WELDING: PER DART QSI 004

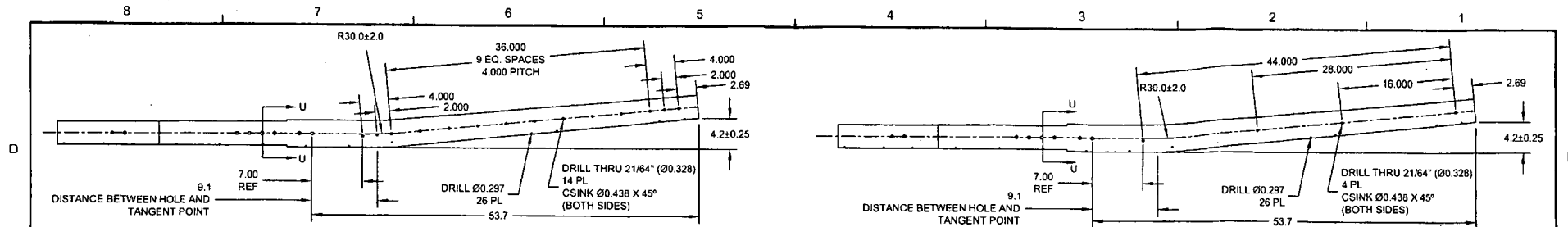
DESIGN	PH	DART AEROSPACE USA, INC
DRAWN	AJS	PORT HADLOCK, WA
CHECKED		DRAWING NO. REV. H
MFG. APPR.		D3391 SHEET 6 OF 8
APPROVED		TITLE SCALE
DE APPR.		412 FLOAT SKIDTUBE NTS
DATE	08.08.20	COPYRIGHT © 2005 BY DART AEROSPACE USA, INC

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RELEASED
08-09-25-14

u10 56735

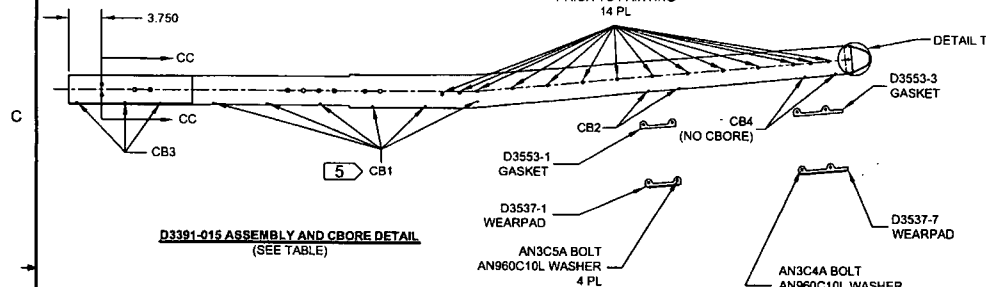
6-10 3.289 - 3.288



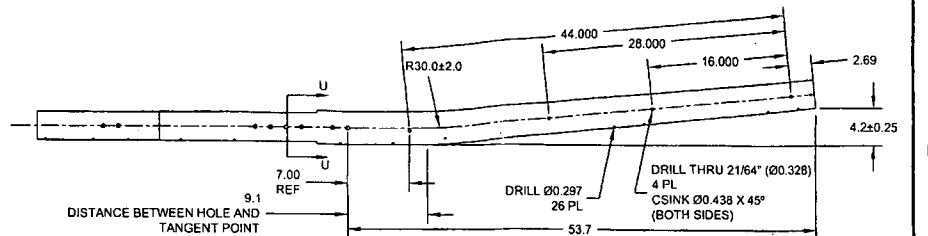


D3391-015 BENDING AND DRILLING DETAIL
(SEE CBORE DETAIL BELOW)

INSTALL D3670-4200 SPACER
SEAL WITH MAGNOBOND 6398
GRIND FLUSH
PRIOR TO PAINTING
14 PL

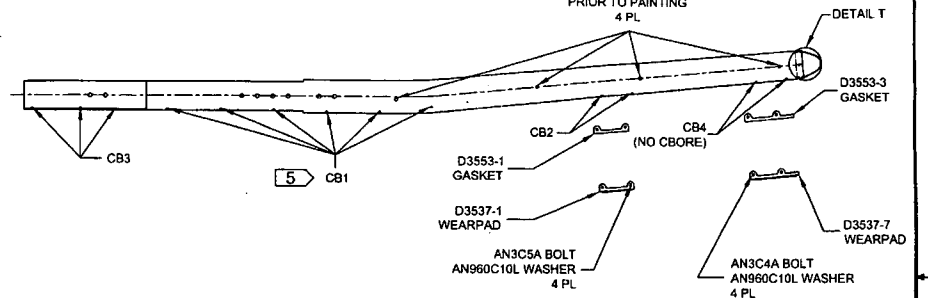


D3391-015 ASSEMBLY AND CBORE DETAIL
(SEE TABLE)



D3391-025 BENDING AND DRILLING DETAIL
(SEE CBORE DETAIL BELOW)

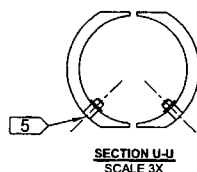
INSTALL D3670-4200 SPACER
SEAL WITH MAGNOBOND 6398
GRIND FLUSH
PRIOR TO PAINTING
4 PL



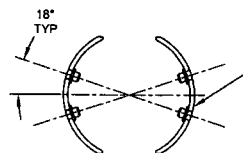
D3391-025 ASSEMBLY AND CBORE DETAIL
(SEE TABLE)

D3391-015/-025 AFT TUBE ASSEMBLY PARTS LIST

QTY - 015	QTY - 025	PART NUMBER	DESCRIPTION
X		D3391-015	AFT TUBE ASSEMBLY
	X	D3391-025	AFT TUBE ASSEMBLY
1	1	D6014-090	AFT TUBE
1	1	D2646	AFT CAP
1	1	D3537-1	WEARPAD
1	1	D3537-7	WEARPAD
1	1	D3553-1	GASKET
1	1	D3553-3	GASKET
14	4	D3670-4200	SPACER
2	2	D3672-1	WASHER
14	14	AELS-1032-130	INSERT
12	12	AELS-1032-225	INSERT
4		ALS4-428-165	INSERT
6	6	AN3C4A	BOLT
4	4	AN3C5A	BOLT
10	10	AN960C10L	WASHER

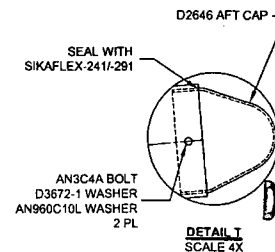


SECTION U-U
SCALE 3X



SECTION CC-CC
SCALE 3X

DRILL Ø0.391
CBORE Ø0.516 X 0.040 DEEP
INSTALL ALS4-428-165 INSERT
4 PL



DETAIL T
SCALE 4X

CBORE HOLES MARKED CB1-CB4 AS FOLLOWS AND
INSTALL AELS-1032-XXX AFTER FINISH AS NOTED

HOLES MARKED	QTY D3391-015	QTY D3391-025	CBORE	P/N
CB1	12	12	Ø0.430 X 0.170	AELS-1032-225
CB2	4	4	Ø0.430 X 0.170	AELS-1032-130
CB3	6	6	Ø0.430 X 0.040	AELS-1032-130
CB4	4	4	NONE	AELS-1032-130

DESIGN	PH	DART AEROSPACE USA, INC	
DRAWN	AJS	PORT HADLOCK, WA	
CHECKED		DRAWING NO.	REV. H
MFG. APPR.		D3391	SHEET 8 OF 8
APPROVED		TITLE	SCALE
DE APPR.		412 FLOAT SKIDTUBE	NTS
DATE	08.08.20	COPYRIGHT © 2005 BY DART AEROSPACE USA, INC	

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RELEASED
08-09-05 MJD

W/056335

DRAWING NO. D3391	TITLE 412 FLOAT SKIDTUBE	REV. H	DART AEROSPACE USA, INC ENGINEERING ORDER		D.E.O. NO. D3391-H-1	SHEET NO. SHEET 1 OF 1	SCALE NTS
DRAWN <i>UP</i>	CHECKED <i>h</i>	MFG. APPR. <i>AA</i>	APPROVED <i>MP</i>		DE APPR. <i>h</i>		
DATE 09.09.23	DATE 09.09.24	DATE 09/09/25	DATE 09/09/30		DATE 09/09/30		

PURPOSE:

LPS-3 IS NO LONGER USED DURING ASSEMBLY OF D3391-041/-043 SKIDTUBES.

CHANGE:

AMEND NOTE 2 OF D3391-041/-043 SKIDTUBE ASSEMBLIES (ZN A6-1, A6-2) AS FOLLOWS:

- 2) ~~SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES "LPS-3" AFTER FINISH~~
~~AND AFTER INSTALLATION OF INSERTS. COAT ALL EXPOSED FASTENERS WITH~~
 LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY, CLEAN EXCESS
 OFF POWDER COATING WITH MEK DEGREASER.

RELEASED
 2010-02-02

MP

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